A9890A RAID Smart Array 6402 Controller Quick Installation Guide

Quick Installation of the Smart Array 6402 Controller

Edition 1

United States

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1 A9890A RAID Smart Array 6402 Controller Multi-OS Overview

NOTE   The latest copy of this document can be found at http://docs.hp.com within the Networking and Communications area.

RAID Smart Array 6402 Installation Prerequisites

Before installing the Smart Array 6402 controller, ensure that the following hardware and software prerequisites are met:

- Check the *Smart Array 6402 Release Notes* for known problems or other information needed for installation.

- Confirm that the Smart Array 6402 controller and software is supported on the HP Integrity server and IO slot chosen, see *Smart Array 6402 controller Support Matrix* located in the Smart Array 6402 Support Guide, available at http://www.docs.hp.com in the Networking & Communications section for more information.

- Check the HP Integrity server's documentation to determine if additional tools may be required for component installation.

- For specific instructions on controller installation, see system-specific documentation on "installing networking controllers" for each type of HP Integrity server that Smart Array 6402 controller will be installed into.

- See your system hardware documentation to determine if OL* is supported. For detailed information about OL*, see the *Interface controllercontroller OL* Support Guide*. You can view, download, or print it from http://www.docs.hp.com.

- Smart Array 6402 controller software media is available. It is included on CD/ or available on the web through http://www.software.hp.com.

- For HP-UX, confirm that HP-UX super-user privileges are available; they are necessary to complete the installation.

- For HP-UX confirm that the `/usr/bin`, `/usr/sbin`, and `/sbin` directories are in your PATH by logging in as root and using the `echo $PATH` command.

- Confirm that the operating system is the correct version.

- Ensure that the proper version of firmware (FW for 64-bit systems) loaded on the controller.

For more information about the required operating system versions, see the *Smart Array 6402 Release Notes*.

2 Smart Array 6402 Controller HP-UX Installation

Install Smart Array 6402 Controller

CAUTION   Smart Array 6402 controllers contain electronic components that can easily be damaged by small amounts of electricity. To avoid damage, follow these guidelines:

- Store controllers in their anti-static plastic bags until installation.

- Work in a static-free area, if possible.

- Handle controllers by the edges only. Do not touch electronic components or electrical traces.

- Use a suitable ground—any exposed metal surface on the computer chassis.

Installing the Smart Array 6402 Controller

The controller comes pre-configured. You do not have to set any jumpers or connectors.

Step 1. Access the system controller bay

- If the system is running, shut it down by executing: `shutdown -h`. Respond "y" to the continue to shutdown prompt, or use OL* features to power down the slot.

- Wait for the system to shut down completely, and then power off the system by pressing the system off button, or that the slot is powered down if using OL* features. Ensure that the system is grounded.

- Open the system to gain access to the PCI backplane.

- For better performance, insert the controller into the highest performance PCI slot available.

Step 2. Install the controller

- Slide the controller edge-connector into the PCI slot until it is fully seated.

- Secure the controller and reassemble the system.

Figure 2-1 Inserting the Controller
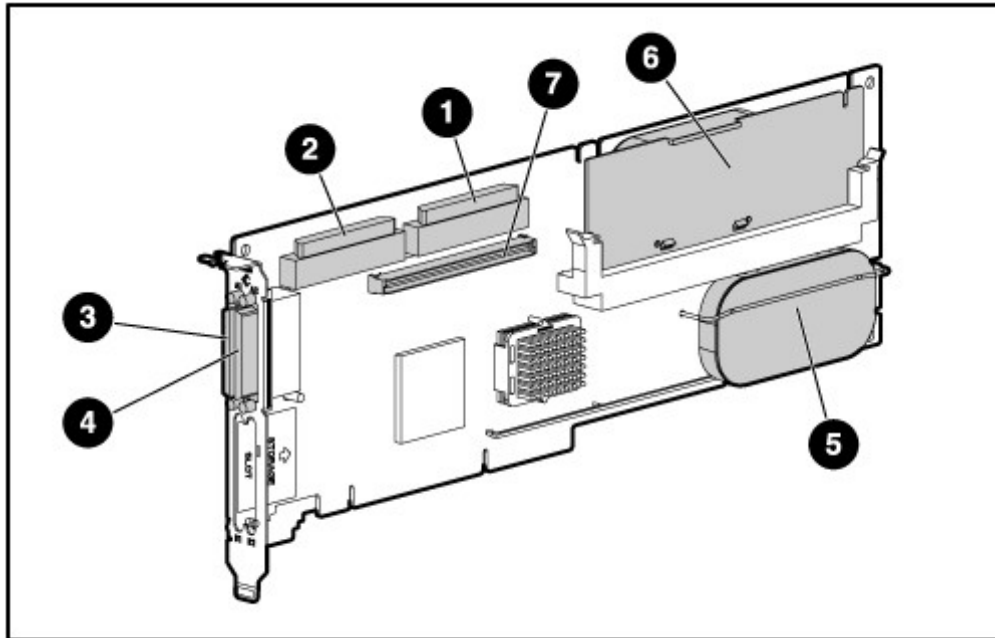
Table 2-1

Item ID	Description
1	Internal SCSI connector, port A1*
2	Internal SCSI connector, port A2*
3	External SCSI connector, port A1*
4	External SCSI connector, port A2*
5	Controller battery
6	Battery-backed cache module
7	Connector for expansion board

NOTE   Do not use both connectors on a port simultaneously.

Install Smart Array 6402 SoftwareInstallation

This chapter contains HP-UX installation information for the A9890A RAID Smart Array 6402 controller.

Installing the Software

This section describes the steps necessary to load the Smart Array 6402 software.

Here are the steps to load the Smart Array 6402 software, using the HP-UX swinstall program.

Step 1. Log on to the system as root.

Step 2. Insert the software media into the appropriate drive. If the software is being loaded from a CD-ROM, go to step 3; otherwise, go to step 4. The software can also be located at http://www.software.hp.com.

Step 3. Mount the CD-ROM drive by using the following command at the command prompt:

```
$ mount device_name
```

where device_name is the name assigned to the CD-ROM drive.

Step 4. Run the swinstall program using the following command:

```
$ /usr/sbin/swinstall
```

This opens the **Software Selection** window.

Step 5. Change the Source Host Name, if necessary, and then enter the mount point of the drive in the Source Depot Path field. Select the OK button to return to the **Software Selection** window.

Step 6. The **Software Selection** window now contains a list of available software to install.

Step 7. Highlight the Smart Array 6402 software:

```
RAIDSA -> B.11.23.01 RAID SA; Supptd HW=A9890A
```

Choose Mark for Install from the **Actions** menu; this chooses the highlighted software.

Step 8. From the **Actions** menu, select the **Install...** menu, and then choose Install. This begins product installation and opens the **Install Analysis** window.

Step 9. Select the OK button in the **Install Analysis** window when the Status field displays a **Ready** message.

Step 10. Select the YES button in the **Confirmation** window to start software installation.

swinstall loads the fileset, runs the control script for the filesets, and builds the kernel. When the processing is finished, the **Status** field displays a **Ready** message. Select **Done** and then the **Note** window opens.

Step 11. Select the OK button in the **Note** window to reboot. The user interface disappears and the system reboots.

When the system comes back up, log on to the system as root and view the /var/adm/sw/swagent.log and /var/adm/sw/swinstall.log files to view error or warning messages that may have occurred during the installation.

Step 12. Verify that all installed Smart Array 6402 controllers have a software state of **CLAIMED**, by running the `ioscan -kfnC ext_bus` |grep ciss command.

3 Smart Array 6402 Controller Linux Installation

Smart Array 6402 Quick Installation

This chapter contains Linux installation information for the RAID Smart Array 6402, A9890A controller.

Install Smart Array 6402 Controllers

CAUTION   Smart Array 6402 controllers contain electronic components that can easily be damaged by small amounts of electricity. To avoid damage, follow these guidelines:

- Store controllers in their anti-static plastic bags until installation.

- Work in a static-free area, if possible.

- Handle controllers by the edges only. Do not touch electronic components or electrical traces.

- Use the disposable grounding wrist strap provided with each controller. Follow the instructions included with the grounding strap.

- Use a suitable ground—any exposed metal surface on the computer chassis.

Installing the Smart Array 6402 Controller

The controller comes pre-configured. You do not have to set any jumpers or connectors.

Step   1. Access the system controller bay

- If the system is running, shut it down by executing: `shutdown -h`. Respond "y" to the continue to shutdown prompt, or use OL* features to power down the slot.

- Wait for the system to shut down completely, and then power off the system by pressing the system off button, or that the slot is powered down if using OL* features. Ensure that the system is grounded.

- Open the system to gain access to the PCI backplane.

- For better performance, insert the controller into the highest performance PCI slot available.

Step   2. Install the controller

- Slide the controller edge-connector into the PCI slot until it is fully seated.

- Secure the controller and reassemble the system.
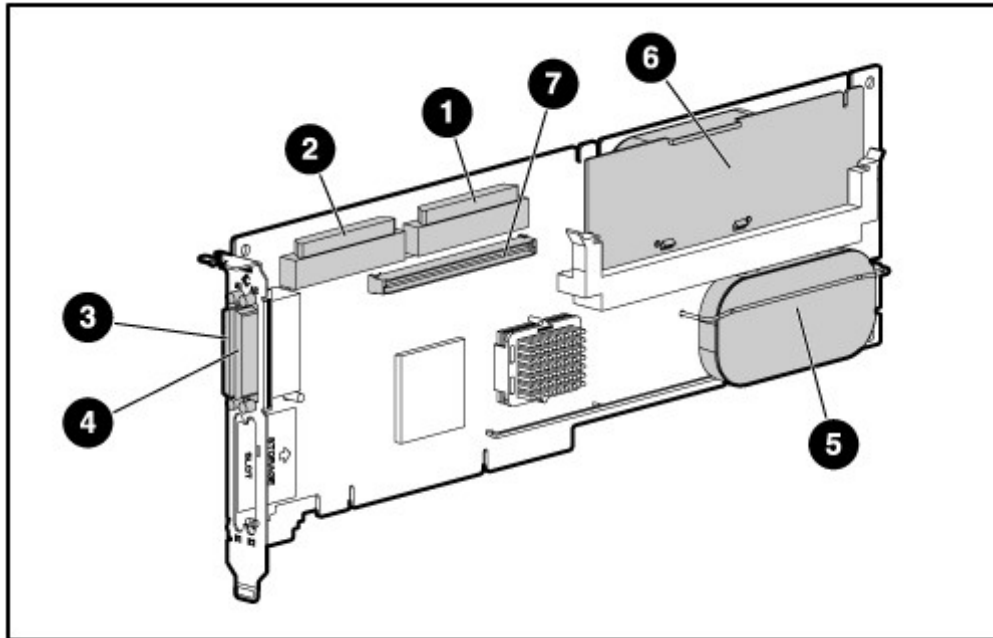
Figure 3-1 Inserting the Controller

Table 3-1

Item ID	Description
1	Internal SCSI connector, port A1*
2	Internal SCSI connector, port A2*
3	External SCSI connector, port A1*
4	External SCSI connector, port A2*
5	Controller battery
6	Battery-backed cache module
7	Connector for expansion board

NOTE   Do not use both connectors on a port simultaneously.

Install Smart Array 6402 Software

This section describes the steps necessary to load the RAID 6402 software on an Integrity server running the Linux operating system.

Installing the Software Prior to OS Install

Here are the steps to load the Smart Array 6402 software prior to installing the operating system:

Step 1. Install the controller using the instructions provided in Linux portion of this guide.

Step 2. Boot the system

Step 3. Go through the normal OS installation process.

NOTE   Linux will recognize that the card is present in the system and will load the correct driver automatically.

Installing the Software with Linux Install

Here are the steps to load the Smart Array 6402 software when Linux is installed.

Step 1. Install the controller using the instructions provided in Linux portion of this guide.

Step 2. Run the following command upon rebooting the system in order to ensure that the driver gets properly loaded for the controller.

RedHat Linux:

The hardware detection functionality in RedHat Linux will find the adapter and properly configure the system files. Run the following command to ensure the driver gets properly loaded:

```
# mkinitrd -f /boot/efi/efi/redhat/initrd-$(uname -r).img $(uname -r)
```

SUSE Linux

The hardware detection functionality in SUSE Linux will find the adapter and properly configure the system files. Run the following command to ensure the driver gets properly loaded:

```
# mkinitrd -k /boot/vmlinux -i/boot/initrd
```

4 Smart Array 6402 Controller Windows Installation

Smart Array 6402 Quick Installation

This chapter provides Windows installation information for the RAID Smart Array 6402, A9890A controller.The procedure for installing the controller can be split into several phases. The sequence in which you must perform the phases depends on the type of server.

The following sections summarize the recommended sequence of phases for each situation. For more information about any phase of the installation procedure, refer to the *HP Smart Array 6402 Series Controllers User Guide* on the Documentation CD in the controller kit.

Install Smart Array 6402 Software

Use the steps in this section to configure your HP Smart Array as the boot controller. After the OS installation is complete, the HP Array Configuration Utility (ACU) can be used to configure the rest of your logical drives.

Step 1. When using an HP Smart Array controller as your boot controller, use the Option Rom Configuration for Arrays (ORCA) utility to configure your logical boot drive. The ORCA utility can only be accessed when the system is booting. Press the F8 key when the prompt appears on the screen during boot to start ORCA and configure your logical boot drive. Refer to the *HP Smart Array 6402 Series Controllers User Guide* (available on the HP Smart Setup media) for details on using the ORCA utility.

NOTE FOR CELL-BASED SYSTEMS: The Smart Array Option ROM must be loaded manually the first time during both manual or software pre-load installations. This can be done at the EFI shell by executing a search all command at the EFI prompt. The F8 prompt will appear. Continue with the configuration without resetting the system.

Step 2. Once thelogical boot drive is configured, exit ORCA, select the EFI Shell [Built-in] from the EFI Boot Manager, then type reset. The OS installation can proceed after the reboot is complete. If you are performing a manual installation and using the Smart Array 6400 as your boot controller, you must load an OEM boot driver: Launch the EFI-Based Setup Utility (EBSU). Instructions on how to launch the EBSU are provided in the, *HP Integrity Server Essentials Foundation Pack, HP Smart Setup Installation Poster for Microsoft Windows* in the Manual OS Installation section. Select Load OEM Boot Driver by pressing the "b" key. Select the appropriate controller at the prompt to load the boot driver, then exit EBSU.

NOTE For remote access, the Telnet and Hyperterminal applications on Windows NT4 and Windows 2000 do not correctly map the ASCII string for the function keys. To enter the configuration utility during POST, press the "Esc" key immediately followed by pressing "8" after the Smart Array banner is displayed on the remote console.

Step 3. Install the operating system.

Step 4. When installing additional Smart Array controllers, ensure each controller has been updated to the latest revision of the driver.

Step 5. Install the Array Configuration Utility (ACU) from the Smart Setup CD.

Step 6. Install the Management Agents.

Step 7. Create and format additional logical drives using the ACU online configuration utility if desired.